

July-December 2012

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Infectious Diseases Branch
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HANTAVIRUS CARDIOPULMONARY SYNDROME

In July and August 2012, the California Department of Public Health (CDPH) confirmed hantavirus cardiopulmonary syndrome (HCPS) in two California residents. Epidemiologic investigation revealed that both patients had visited Yosemite National Park in June 2012 and had lodged at “signature” tent cabins in Curry Village. CDPH, in collaboration with the U.S. Centers for Disease Control and Prevention (CDC) and the National Park Service (NPS), initiated an investigation to identify additional cases of hantavirus infection, evaluate factors associated with exposure, assess the activities of rodents and Sin Nombre virus (SNV) in Yosemite, and make recommendations for control and prevention.

By November 30, 2012, ten cases of hantavirus infection were identified in residents of three states (CA, PA, WV) who visited Yosemite between June 2 and July 23, 2012. Nine case-patients had lodged in “signature” tent cabins in Curry Village; one patient lodged in tent cabins in the Tuolumne Meadows area, an area reported in two California HCPS cases from previous years. Visual assessment of “signature” tent cabins revealed evidence of mouse ingress and infestation, particularly in the wall insulation. Rodent surveillance conducted in August showed a 45% trap success for deer mice (*Peromyscus maniculatus*) in Curry Village. SNV antibodies were detected in 14% (10 of 73) of the deer mice. Additional surveillance and assessment was conducted in early September at Curry Village and at the Tuolumne Meadows tent cabins area. Trap success at Curry Village decreased to 14% and none of 10 deer mice tested positive for SNV antibodies. At Tuolumne Meadows Lodge, trap success was 48% and SNV antibodies were detected in 2 of 26 (8%) deer mice. Visual evidence of mouse ingress was noted in tent cabins and other structures at the Tuolumne Meadows site. Recommendations were provided for rodent mitigation and control in and around guest lodgings, as well as increased education of visitors on hantavirus and rodent-borne disease prevention.

This outbreak represents the largest cluster of HCPS cases identified in North America since the 1993 Four Corners outbreak when HCPS was first identified as a clinical entity.

RODENT SURVEILLANCE

Over 500 *Peromyscus* mice from 12 counties were tested for serum antibody to Sin Nombre virus between July and December 2012. Test results for this period and California year to date totals are summarized below:

Peromyscus spp.

County	<i>P. boylii</i>		<i>P. californicus</i>		<i>P. crinitus</i>		<i>P. eremicus</i>		<i>P. maniculatus</i>		<i>P. truei</i>		<i>P. eremicus fraterculus*</i>	
	Pos	Tested	Pos	Tested	Pos	Tested	Pos	Tested	Pos	Tested	Pos	Tested	Pos	Tested
Alameda									0	11	0	2		
El Dorado									11	49				
Lassen	0	13							2	16				
Los Angeles	0	9							0	1				
Mariposa	0	30							10	84				
Modoc									2	9				
Napa									1	5	0	1		
Nevada									0	5				
Riverside			0	6			1	16	0	3				
San Bernardino									0	4				
San Diego	0	5	1	40					1	76			0	83
Tuolumne									2	39				
July-Dec totals:	0	57	1	46			1	16	29	302	0	2	0	83
California: 2012 total	0/60		4/159 (2.5%)		0/0		1/79 (1.3%)		52/623 (8.3%)		0/4		2/174 (1.1%)	

**P. fraterculus* recently elevated to full species level in San Diego Co.

Surveillance data collected and reported by: Alameda County Vector Control Services District, Coachella Valley Mosquito & Vector Control District, Riverside County Dept. of Env. Health VCP, San Diego County Vector Control Program, West Valley Mosquito & Vector Control District, and the California Department of Public Health Viral and Rickettsial Diseases Laboratory and Vector-Borne Disease Section.

OTHER NEWS

As of December 14, 2012, the CDC has reported a total of 616 cumulative HCPS resident cases from 34 states, including 62 from California, with a cumulative case fatality rate of 36%. Of the 30 HCPS cases reported nationwide in 2012, Arizona reported (1), California (10), Colorado (3), Illinois (1), Montana (3), New Mexico (1), New York (1), Oregon (2), Pennsylvania (1), South Dakota (1), Utah (2), Washington (2), West Virginia (1), and Wyoming (1). Detailed national HCPS information, including state Public Health Department links, can be found at the CDC website: <http://www.cdc.gov/hantavirus>.